<u>REMARKS</u>

This Amendment is filed in response to the Office Action dated September 21, 2005, which has a shortened statutory period set to expire December 21, 2005. A petition is filed herewith extending the period of response until January 21, 2006.

Applicant notes that although Claims 9 and 30 are indicated on page 2 of the Office Action as being rejected under 35 USC 102(a/e), the only detailed rejection of these claims occurs on page 7 in which Claims 9 and 30 are explicitly rejected under 35 USC 103(a) as being obvious over Erhardt in view of Mansfield. Therefore, Applicant has assumed that Claims 9 and 30 are, in fact, rejected under 35 USC 103(a).

<u>Applicant Addresses Objections To Claims 1, 23, and 43</u>

Claims 1, 23, and 43 are amended to recite "wherein the parameters include settings relating to the mask, an inspection system that provided information for the mask file, and a stepper that can be used in exposing the mask during photolithography". In light of these amendments to Claims 1, 23, and 43, Applicant respectfully submits that the recited "parameters" are sufficiently defined. Therefore, Applicant requests reconsideration and withdrawal of the objection to Claims 1, 23, and 43.

<u>Claims 1, 4-5, 6-8, 10-16, 20-23, 25-29, 31-36, 41-43, and 45-49</u>
<u>Are Patentable Over Erhardt</u>

In col. 4, line 45 to col. 5, line 11 (see Fig. 1), Erhardt teaches a hierarchy of testing that can be employed in evaluating a new product mask. This hierarchy is now described. The actions at the bottom of the hierarchy, i.e. layer 110, can include scanning a reticle and performing printability simulations. At layers 120 and 130, a production wafer and/or

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test wafers can be analyzed as they are being processed (wherein this processing includes patterning the wafer using the reticle containing the new product mask). For example, at layer 120, flat wafer monitoring, including analyzing one or more focus exposure matrices (FEMs) on the flat wafer, can occur. At layer 130, analyzing FEMs on a full flow product wafer can occur. Performing analyses on both test wafers and full flow production wafers facilitates collecting comparative data that in turn facilitates evaluating reticle defects in the context in a product and feature sensitive manner. Further, printing and then analyzing FEMs on a full flow product wafer facilitates collecting data associated with defects that may only become apparent under actual production run conditions. Finally, at the top of the hierarchy (i.e. layer 140), analysis performed on substantially completed wafers is undertaken. For example, analysis including, but not limited to, electrical analysis of circuits on the wafer can be undertaken. By employing a hierarchy of testing, data that can be employed to detect reticle defects and to determine the effect on production yields can be collected from several processes in the processing cycle, which facilitates producing improvements in new product mask evaluation by improving reticle defect detection and product yield analysis, as compared to conventional systems.

Claims 1, 23, and 43, as amended, now recite specifying "a job to be run using the mask file, wherein the job defines parameters used in processes performed uniformly for defects on the mask, wherein the parameters include settings relating to the mask, an inspection system that provided information for the mask file, and a stepper that can be used in exposing the mask during photolithography". Applicant respectfully submits that Erhardt fails to disclose or suggest these settings.

The Office Action cites the summary, col. 4, lines 45-67; col. 5, lines 25-45; col. 6, lines 4-31; col. 7, lines 18-67; and col. 8, lines 1-64 as teaching these limitations. Applicant respectfully traverses this characterization.

Note that the "job", as recited in Claim 1, is run using a mask file. The only actions taught by Erhardt running a mask file are those actions associated with layer 110 (see Fig. 1), i.e. reticle simulation. The summary of Erhardt mentions printability simulations, but fails to teach the recited settings. Col. 4, lines 45-67 describes a hierarchy of testing, which includes reticle simulation, but also fails to teach the recited settings. Col. 5, lines 25-45 briefly describes printability simulation (block 230), but also fails to teach the recited settings. Col. 6, lines 4-31 describes flat wafer monitoring and therefore teaches nothing about the job, much less the recited settings. Col. 7, lines 18-67 describes yield analysis, a flat test wafer, and a full flow production wafer and therefore also teaches nothing about the job, much less the recited settings. Col. 8, lines 1-64 teaches a printability simulator 440, but fails to teach the recited settings.

Because Erhardt fails to disclose or suggest the recited settings, Applicant requests reconsideration and withdrawal of the rejection of Claims 1, 23, and 43.

Claims 5, 7, 10-16, and 20-22 depend from Claim 1. Claims 26, 28, 31-36, and 41-42 depend from Claim 23. Claims 46-49 depend from Claim 43. Therefore, Claims 5, 7, 10-16, 20-22, 26, 28, 31-36, 41-42, and 46-49 are patentable for at least the reasons presented for Claims 1, 23, and 43.

Moreover, Claims 7 and 28 recite, "wherein the settings include at least one of an inspection system vendor and an inspection system model". There is no indication that Erhardt uses an inspection system vendor or an inspection system model

as settings in the taught simulation. Therefore, Applicant requests further reconsideration and withdrawal of the rejection of Claims 7 and 28.

Moreover, Claim 15 recites, "wherein the overall summary includes defect scoring of the defects". Nothing in Erhardt teaches defect scoring. Therefore, Applicant requests further reconsideration and withdrawal of the rejection of Claim 15.

Moreover, Claim 20 recites, "entering a status for each defect based on a user's review of the results of the job". Nothing in Erhardt teaches this limitation. Therefore, Applicant requests further reconsideration and withdrawal of the rejection of Claim 20.

Moreover, Claim 21 recites, "providing a history of statuses for each defect based on users' reviews of the results of the job". Nothing in Erhardt teaches this limitation. Therefore, Applicant requests further reconsideration and withdrawal of the rejection of Claim 21.

Moreover, Claim 22 recites, "accessing the results of the job using a web browser". Nothing in Erhardt teaches this limitation. Therefore, Applicant requests further reconsideration and withdrawal of the rejection of Claim 22.

Moreover, Claim 42 recites, "wherein the means for outputting interfaces with a web browser to provide the graphic user interface". Nothing in Erhardt teaches this limitation. Therefore, Applicant requests further reconsideration and withdrawal of the rejection of Claim 42.

Moreover, Claim 49 recites, "code that enters a status for each defect based on a user's review of the results of the job; and code that provides a history of statuses for each defect based on users' reviews of the results of the job". Nothing in Erhardt teaches these limitations. Therefore, Applicant requests further reconsideration and withdrawal of the rejection

of Claim 49.

## Claims 9 and 30 Are Patentable Over Erhardt In View Of Mansfield

Claims 9 and 30 depend from Claims 1 and 23 and therefore are patentable for at least the reasons presented for Claims 1 and 23 above.

Applicant notes that Mansfield fails to remedy the deficiencies of Erhardt discussed above with respect to Claims 1 and 23. Specifically, Mansfield fails to disclose or suggest specifying "a job to be run using the mask file, wherein the job defines parameters used in processes performed uniformly for defects on the mask, wherein the parameters include settings relating to the mask, an inspection system that provided information for the mask file, and a stepper that can be used in exposing the mask during photolithography". Therefore, even in combination, Erhardt and Mansfield fail to disclose or suggest Claims 1 and 23.

Thus, based at least on the dependency of Claims 1 and 23, Claims 9 and 30 are patentable.

## Claims 2, 3, 5, 19, 24, 26, 39, 41-42, and 44 Are Patentable Over Erhardt In View Of Avant!

Claims 2, 3, 5, and 19 depend from Claim 1 and therefore are patentable for at least the reasons presented for Claim 1. Claims 24, 26, 39, and 41-42 depend from Claim 23 and therefore are patentable for at least the reasons presented for Claim 23. Claim 44 depends from Claim 43 and therefore is patentable for at least the reasons presented for Claim 43.

Neither Avant! nor Sematech remedies the deficiencies of Erhardt discussed above with respect to Claims 1, 23, and 43. Specifically, Avant! and Sematech each fail to disclose or

suggest specifying "a job to be run using the mask file, wherein the job defines parameters used in processes performed uniformly for defects on the mask, wherein the parameters include settings relating to the mask, an inspection system that provided information for the mask file, and a stepper that can be used in exposing the mask during photolithography". Therefore, even in combination, Erhardt, Avant!, and Sematech fail to disclose or suggest Claims 1, 23, and 43.

Thus, based at least on claim dependency, Claims 2, 3, 5, 19, 24, 26, 39, 41-42, and 44 are patentable.

Moreover, Claim 19 recites, "wherein one level can provide an aerial image of each defect and a reference image of an area corresponding to that of the defect". Erhardt, Avant!, and Sematech, individually or in combination, fail to disclose or suggest this limitation. Therefore, Applicant requests further reconsideration and withdrawal of the rejection of Claim 19.

Moreover, Claim 39 recites, "wherein one review level can provide an aerial image of each defect and a corresponding reference image of that defect". Erhardt, Avant!, and Sematech, individually or in combination, fail to disclose or suggest this limitation. Therefore, Applicant requests further reconsideration and withdrawal of the rejection of Claim 39.

Moreover, Claim 42 recites, "wherein the means for outputting interfaces with a web browser to provide the graphic user interface." Erhardt, Avant!, and Sematech, individually or in combination, fail to disclose or suggest this limitation. Therefore, Applicant requests further reconsideration and withdrawal of the rejection of Claim 42.

Claims 16-18 and 36-38 Are Patentable Over Erhardt In View Of Potucek

Claims 16-18 depend from Claim 1 and therefore are patentable for at least the reasons presented for Claim 1. Claims 36-38 depend from Claim 23 and therefore are patentable for at least the reasons presented for Claim 23.

Applicant questions whether Potucek can be combined with Erhardt. Potucek teaches a method for determining defects on a document, not a photolithographic mask. Applicant respectfully submits that finding defects on the documents and/or scanning system, e.g. dust, lint, and scratches, is not analogous to finding defects on a photolithographic mask.

Even assuming arguendo that Erhart and Potucek can be combined, Potucek fails to remedies the deficiencies of Erhardt discussed above with respect to Claims 1 and 23. Specifically, Potucek also fail to disclose or suggest specifying "a job to be run using the mask file, wherein the job defines parameters used in processes performed uniformly for defects on the mask, wherein the parameters include settings relating to the mask, an inspection system that provided information for the mask file, and a stepper that can be used in exposing the mask during photolithography". Therefore, even in combination, Erhardt and Potucek fail to disclose or suggest Claims 1 and 23.

Thus, based at least on claim dependency, Claims 16-18 and 36-38 are patentable.

Moreover, Claim 17 recites, "wherein the defect map is color-coded based on a defect severity associated with each defect". Erhardt and Potucek, individually or in combination, fail to disclose or suggest this limitation. Therefore, Applicant requests further reconsideration and withdrawal of the rejection of Claim 17.

Moreover, Claim 18 recites, "wherein a high defect severity is indicated by a flashing light". Erhardt and Potucek,

individually or in combination, fail to disclose or suggest this limitation. Therefore, Applicant requests further reconsideration and withdrawal of the rejection of Claim 18.

Moreover, Claim 37 recites, "wherein the means for outputting includes means for color-coding the defect map based on a defect severity associated with each defect". Erhardt and Potucek, individually or in combination, fail to disclose or suggest this limitation. Therefore, Applicant requests further reconsideration and withdrawal of the rejection of Claim 37.

Moreover, Claim 38 recites, "wherein the means for color-coding the defect map includes means for providing a flashing colored light for any defect having a high defect severity". Erhardt and Potucek, individually or in combination, fail to disclose or suggest this limitation. Therefore, Applicant requests further reconsideration and withdrawal of the rejection of Claim 38.

## CONCLUSION

Claims 1-3, 5, 7, 9-24, 26, 28, 30-43, and 46-49 are pending in the present Application. Allowance of these claims is respectfully requested.

If there are any questions, please telephone the undersigned at 408-451-5907 to expedite prosecution of this case.

Respectfully submitted,

Customer No.: 35273

Jeanette S. Harms
Attorney for Applicant
Reg. No. 35,537

I hereby certify that this correspondence is being deposited with the United States Postal Service as FIRST CLASS MAIL in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 23, 2005.

12/23/2005
Date

(Signature: Rebecca A. Baumann

(SN: 10/618,816)